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**DFCMR CONTINGENCY PLANNING REPORT**

**FOR: AECB DFCMR**



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## 1. EXECUTIVE SUMMARY

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The Atomic Energy Control Board's Directorate of Fuel Cycle and Materials Regulation (DFCMR) has made significant progress in addressing Year 2000 related risks by way of this Contingency Planning document. It is the latest version of the Contingency Plan Program, which is being driven by the Treasury Board Blue Book<sup>1</sup>.

This contingency planning document addresses potential scenarios, routine and non-routine methods of dealing with incidents and identifies the deficiencies (deltas) which currently exist in emergency preparedness within the DFCMR. Our approach has demonstrated that the AECB maintains a high level of readiness commensurate with the hazards and risks associated with normal business activities. However, with the Year 2000 presenting atypical hazards, it is important that a diligent program be instituted which identifies, assesses, and mitigates the risks in an acceptable manner.

The contingency planning process is one element that forms the basis of the DCFMR and the Corporate AECB's approach to dealing with the Year 2000 issue. This report represents the first step in addressing the risk management issues. Once the focus of attention moves offsite to licensee activities, new scenarios will be identified that may potentially impact the AECB and therefore, planning efforts will be required.

This report focuses on the potential impact on the DFCMR and the required contingency plans necessary to respond in a safe, timely and effective manner. In reviewing the program which currently exists within the AECB, and the DFCMR in particular, many of the components deemed essential in addressing Year 2000 preparedness, as outlined by the Treasury Board, are in place. A system of Notification, Assessment, Planning, Action and Termination for emergency incidents does exist, as do procedures for routine incidents. Our findings are mostly single source events which require some planning and procedural changes. Given the current context within the AECB and the DFCMR for planning, we have elected to present the contingency plans as General Operating Guidelines (GOG).

Current "Contingencies" within the Directorate are addressed via three separate but interrelated documents - the Emergency Response Plan, the Emergency Response Manual and the Field Level Manuals. To ensure that these are not usurped, we have presented our suggested additions as GOGs.

The contingency planning process was beneficial in highlighting areas of deficiency (delta) within the DFCMR, which need to be further examined as the Year 2000 approaches. Delta areas include the handling of simultaneous emergencies and the need for current Business

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<sup>1</sup>Steering Government Into the Next Millennium: A Guide to Effective Business Continuity in Support of the Year 2000 Challenge, Treasury Board of Canada Secretariat

Resumption planning. Since it is one of the main elements in the overall Year 2000 Action Plan, the contingency planning process has been useful in collecting information, enhancing awareness of internal DFCMR personnel, and providing a clear outline as to what still requires closure prior to the Year 2000.

The following paragraphs summarize the AECB's DFCMR contingency planning efforts to date.

### **Contingency Planning Organization**

The ultimate responsibility for dealing with emergency incidents and ensuring continuity of AECB operations lies with the Emergency Operations Centre (EOC).

The development and the coordination of activities related to this contingency planning document are being lead by the Technical Advisor to the Director of the Material Regulations Division (MRD).

### **Business Impact Analysis**

The DFCMR contingency planning efforts are driven by the risks identified and the credible scenario list which was prepared through several brainstorming sessions and followed-up with key individuals within the AECB organization. A risk profile has been developed for site licensees. Coordination of internal risk control is being managed by Corporate AECB.

### **Day "0" Planning**

The DFCMR has increased its prevention activities and is currently tightly managing its efforts to further prevent the occurrence or impact of Year 2000 related failures.

Current key areas of activities include:

- *Capacity planning*: to prevent failures due to increased levels of activity with AECB clients (site licensees);
- *Data integrity*: in order to ensure that generated information for AECB clients is not corrupted by Year 2000 related problems;
- *Facilities*: in order to ensure that facilities will not be vulnerable to preventable public infrastructure failures; and
- *Human resources*: to ensure that the AECB will have the required resources to support businesses in addressing Year 2000 related issues.

### **Contingency Planning Process**

Detailed general operating guidelines have been developed for the mission-critical functions as defined in Section 4.2 of this plan and for which the DFCMR identified risks.

These general operating guidelines are provided in Annex IV. As new risks are uncovered, they are expected to further refine and complement the current set of general operating guidelines.

The current contingency planning process did not fully integrate the risk assessment work that was conducted in parallel. As the preparedness program moves forward, every effort should be made to streamline essential elements into a single goal driven program.

*This Contingency Planning Report is not an end, but a middle milestone in the continued move towards attainable preparedness. As the focus moves towards licensee contingency planning and preparedness, new scenarios will arise which may impact the AECB and which require planning. As such, this should be viewed as the initial cut.*

### **Incident Response**

The AECB is currently under a governance structure which deals with emergency incidents. An Emergency Response Plan and Emergency Operations Centre are in place to meet identified hazards which may impact business operations.

### **Conclusion**

The AECB has established an aggressive plan of action which is successfully addressing the Year 2000 problem through risk profiles, licensee action plans and a general operating guidelines process. This puts the organization in a position to pro-actively and positively work through potential undesirable incidents due to a Year 2000 related business disruption.

## 2. RECOMMENDATIONS

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The Contingency Planning process was not intended to produce recommendations. However, issues have been identified which require treatment (via recommendation). During initial discussions with the AECB, it was suggested that any recommendations would be welcome (regardless of Division).

- R1.** During the contingency planning process, a list of potentially hazardous scenarios was produced which, with an initiating sequence, may result in an emergency incident. This scenario list identified several credible scenarios that were not addressed in the AECB Emergency Response Manual. One identified scenario which may impact operations is the receipt of an excessive amount of calls from licence holders (and hence, overloading of the system would occur). The AECB should consider updating its Emergency Response Manual with a procedure to deal with excessive amounts of calls.
- R2.** Another potential preparedness issue which may impact emergency response is simultaneous emergency incidents. The AECB should consider updating its Emergency Response Manual with a procedure for dealing with simultaneous emergency situations, the impact from one department to another and developing a prioritized list of scenarios and licensees. Traditionally, simultaneous incidents may be considered of negligible risk. However, the nature of the Year 2000 problem is such that all AECB related activities and clients (ie. nuclear power plants, research facilities, medical devices etc...) are all impacted at the same time. If something occurs, then it may occur at several sites. As such, to alleviate confusion and determine priority licensees, simultaneous event preparation should be considered.
- R3.** The telephone back-up systems (WAN via remote access and satellite telephones) specified in the AECB Emergency Response Manual, should be in place.
- R4.** The need to activate multiple site licensees via a branch level call-out may be a scenario which impacts business operations within the AECB. A potential solution is the installation of a call-out telephone delivery system which can be set-up to call a series of phone numbers (pre-programmed to licensees with similar devices).
- R5.** During our review, redundant communication systems were not in place. Communications is the most critical item to possibly affect the AECB and the DFCMR's operations. The transfer of information between licensees, and the AECB in routine and emergency situations, is vital to the overall business continuity. If backup radio or other systems are not being considered, they should be assessed from a cost benefit analysis perspective.
- R6.** The DFCMR should consider developing a prioritized list of scenarios and licensees

for routine operations. A high level of traffic (information request, information flow) may occur as a result of the Year 2000 problem. Licensees may, in fact, just want confirmation from the AECB that similar devices are not being affected by the Year 2000 as it triggers throughout the world. As such, in keeping with the risk assessment process, a priority list could be drawn up to determine an appropriate order in which to process routine operations (as they pertain to DFCMR site licensees).

R7. Several of the scenarios identified in our scenario list have been expanded into General Operating Guidelines (GOGs).

The DFCMR general operating guidelines will need to be refined, as do the associated duty officer procedures. The GOGs are a first level development. As the Year 2000 preparedness activities move forward, existing GOGs will require modifications and new ones will require implementation. The GOGs should be updated on a monthly basis, provided new information is available.

R8. Resources will have to be addressed in advance to ensure the AECB's operations will be running smoothly during the critical Year 2000 period (Day "0" Planning). This may include adding several personnel to the call list as ready responders.

R9. DFCMR personnel act as responders and/or duty officers should emergency events arise at site licensees. One mechanism in the notification process is the use of pagers. The pagers should be checked to ensure they are Year 2000 compliant (probably already completed but we did not close this out).

R10. The AECB message centre should have a multiple-line telephone system to ensure all calls are being received.

R11. The update that is presently being made to the AECB Emergency Response Manual/Plan for computer failure events, should be monitored to ensure it will be sufficient in covering all important situations.

R12. In the future, the MRD should emphasize the fact that one of the purposes of performing a risk assessment is to provide the contingency planning process with valuable information to help achieve preparedness.

R13. *Glossary of Terms.* In developing contingency plans and reviewing current operating procedures, it has become clear where the effort in preparedness needs to be directed, and that is, toward the site licensee. Our experience has provided some insight into where breakdown usually occurs. A standardized Glossary of Terms may be useful for circulation to site licensees to be included in their own internal emergency preparedness regime.

R14. The contingency planning process must be kept current. This is the most important observation/recommendation we can highlight. It is imperative that DFCMR

personnel be completely familiar with routine and emergency procedures within the AECB organization. While many responders are very aware of their responsibilities and roles, it will be necessary to demonstrate that the DFCMR has ensured it meets its response preparedness through verification.

Verification and Preparedness of Contingency Plans can be accomplished in three ways: 1. Contingency Plan Content Review; 2. Drills; 3. Scenario Exercises (Refer to Section 5 for explanations).

### **3. INTRODUCTION**

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#### **3.1 BACKGROUND**

In view of preparing for Year 2000 related events, the Directorate of Fuel Cycle and Materials Regulation (DFCMR) proposed to arm itself with internal contingency plans. With the extensive planning already in place for identified emergency situations and normal routine operations, our terminology has been modified to ensure that our process fits into the business operations seamlessly. As such, where possible, general operating guidelines (GOGs) have been developed for routine operations.

The existing AECB method of dealing with licensee and public calls is already well established and must be taken into account while producing general operating guidelines.

#### **3.2 OBJECTIVE**

The DFCMR intended to have contingency plans for dealing, in its regulatory capacity, with any incidents, problems, or significant events that may come about due to Year 2000 induced malfunctions in licensees' equipment or operations. The objectives are the following:

- To address potential Year 2000 related hazardous events which may impact business continuity and due diligence;
- To identify deficiencies (deltas) in the overall Action Plan and DFCMR preparedness activities;
- To prepare contingency plans (or similar derivatives) for deltas identified.

#### **3.3 SCOPE**

This report focuses on reviewing the DFCMR's existing preparedness with respect to Year 2000 related incidents. It also assesses how the differences between routine and emergency operations impact business continuity, all the while considering AECB response activities.

The intention is to provide the DFCMR with tools to ensure its readiness. This includes the creation of DFCMR general operating guidelines and incorporating them into the existing AECB response structure.

### 3.4 APPROACH

The overall contingency planning process involved several layers of activity, all directed towards:

- ✓ Identifying Credible Scenarios,
- ✓ Identifying Areas of Deficiency,
- ✓ Ensuring Current DFCMR Preparedness Incorporates Year 2000 Initiated Events,
- ✓ Providing Detailed Information for Deltas,
- ✓ Offsite Preparedness - Contingency Plans & Remediation Strategies.

The contingency planning process included a risk based program to identify device oriented hazards which may impact life safety at licensee sites. Brainstorming sessions were held in parallel to determine a set of credible scenarios that could be initiated as a result of Year 2000 problems. Once the scenarios were complete, and risk based information assessed for applicability to our process, the potential event information was cross-referenced with current Board-wide and DFCMR level preparedness activities. Any deficiencies were addressed through general operating guidelines.

Our approach has been to use AECB Subject Matter Experts (SMEs) in assembling vital information necessary to review preparedness activities and ensure that current procedures cover all essential response elements.

#### YEAR 2000 TRIGGERED SCENARIOS:

Brainstorming sessions were conducted on January 27<sup>th</sup> and February 10<sup>th</sup> 1999 for the purpose of creating Year 2000 contingency plans for the DFCMR. A series of possible Year 2000 triggered scenarios were generated ( Refer to Annex I ).

#### COLLECTION OF INFORMATION:

Key DFCMR personnel were asked to contribute to the process either in writing, or during private interviews ( Refer to Annex II ).

Important documentation was gathered and analysed to learn of the AECB's distinct routine and emergency operations (Refer to Annex III).<sup>2</sup>

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<sup>2</sup> This information helped determine that General Operating Guidelines are more appropriate for DFCMR, as opposed to Contingency Plans.

**SELECTION OF SCENARIOS:**

After the necessary input was made available, a triage of scenarios was performed. The triage was applied using criteria outlined in Table A.

<b>TABLE A - SELECTION PROCESS FOR CREDIBLE SCENARIOS</b>				
	<b>QUESTION</b>	<b>YES / NO</b>	<b>IF FOR A PARTICULAR SCENARIO, THE ANSWER IS "YES" TO QUESTION NUMBER:</b>	<b>COMMENT</b>
<i>Is the Scenario:</i>	1) dealt with under existing AECB procedures?	YES	then the procedure(s) is/are mentioned.	
	2) somewhat dealt with under AECB procedures?	YES	then the partially fitting procedure(s) is/are mentioned and an appropriate explanation is provided.	
	3) one that should fall under the Corporate realm of responsibility?	YES	then an explanation is provided.	
	4) one that can be handled by the DFCMR?	YES	then a General Operating Guideline (GOG) is prepared as well as a Duty Officer Manual procedure (linking document) if necessary.	
	5) one that can be closed-out?	YES	then an explanation is provided.	

#### PREPARATION OF THE GENERAL OPERATING GUIDELINES:

The General Operating Guidelines were written to include topics that appear in the AECB Emergency Response Manual procedures, such as:

- Activation
- Notification
- Alternate Locations Set-up
- Telecommunications
- Information Management
- Evaluation
- Public Information
- Logistics
- Federal Nuclear Emergency Plan Implementation
- Deactivation
- Operations Relocation
- Notification of Next of Kin
- Environmental Monitoring

Some of these headings will not necessarily apply to certain scenarios, but they are worth keeping in mind during the development of general operating guidelines.

At the present time, much of the detailed information that should appear in the general operating guidelines is incomplete. Further efforts will need to be made in order for them to become functional ( Refer to Annex IV ).

#### DUTY OFFICER PROCEDURES:

The AECB receives outside caller (licensee/public) requests through a message centre. The messages are transferred to an AECB duty officer who becomes responsible for ensuring that the call requests are followed-through to completion.

The Duty Officer's Manual needs to include procedures for dealing with specific DFCMR general operating guidelines.

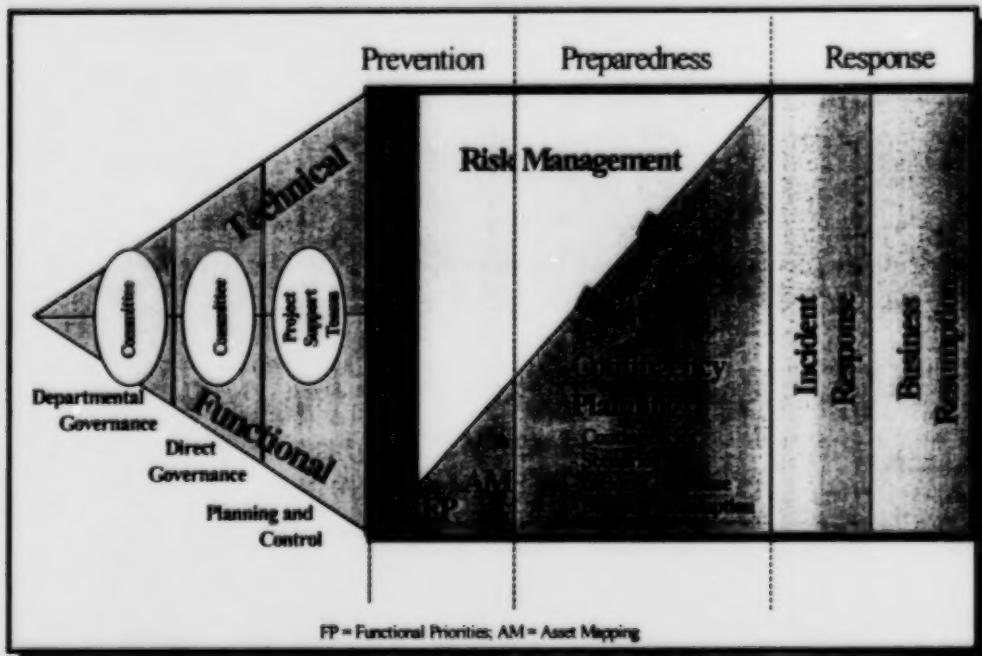
These new procedures have a pre-established format and will demand further attention ( Refer to Annex V ).

#### 3.5 AUDIENCE

The target audience for the contingency planning process are AECB staff who may be called upon to respond to Year 2000 initiated events (both routine and emergency). This document is directed towards MRD management, who is responsible for implementing its Year 2000 Action Plan.

### 3.6 PROCESS OVERVIEW

"The Business Continuity process starts with the establishment of a governance structure which will steer the process and ensure that decisions are made in a timely fashion. The governance structure extends from the planning and control level, where resources are mobilized and assigned to conversion activities, to the corporate (...) governance where high level decisions are made regarding business continuity. Both sides of the organization, that is functional and technical, are represented and bring their own set of objectives to the process. Technical personnel aim at achieving Year 2000 compliance before the year 2000 while functional personnel aim at ensuring business continuity. (...) The achievement of the functional personnel's objectives is heavily dependent on the technical personnel's ability to meet theirs. The technical side of the organization plays an important role in the performance and success of the business continuity process."<sup>3</sup>



**Figure - Conceptual View of the AECB's DFCMR Contingency Planning Process**

#### *Governance Structure for the AECB*

Two separate Year 2000 Steering Committees are in place; the first provides a central focus for all Year 2000 related issues that touch on AECB licensees' activities that may affect health, safety, security and environment (i.e. the AECB's mandate) and the second deals with

<sup>3</sup>Steering Government into the Next Millennium: A Guide to Effective Business Continuity in Support of the Year 2000 Challenge, Treasury Board of Canada Secretariat, Version 2.2 Final, October 1998, p.3.

the AECB's internal Year 2000 readiness. The Committees have a coordinating function and do not hold responsibility for Year 2000 planning in each division of the AECB. They are intended to provide guidance and help build consensus.

The AECB's DFCMR contingency planning process spans the three stages of a "typical" business continuity process and are defined, within the context of DFCMR's efforts, as:

**Prevention.** To prevent or minimize the negative effects of the change due to the new millennium, in an ongoing process, the DFCMR has expended significant efforts and funds in examining, modifying, testing and upgrading systems and the technology infrastructure. The DFCMR is now developing a step-by-step plan that will cover the entire event flow and address residual risks from this process. This plan addresses all known likely scenarios and identifies the required resources to manage these risks.

**Preparedness.** Using the "operational flow" framework, the DFCMR is developing general operating guidelines to address residual risks from the prevention phase.

**Response.** During this phase, the DFCMR will pro-actively and positively work through incidents due to Year 2000 related business disruptions, should they occur.

The AECB's External Relations and Documentation Division (ERDD) is responsible for determining appropriate responses to specific risks and the Directorate of Corporate Services (Finance Division) is responsible for implementing the business continuity process. The development of the MRD's site licensee risk profile, along with the coordination of activities related to the contingency planning process have been delegated to the MRD Director's Technical Advisor.

TABLE B - HIGH-LEVEL SCHEDULE FOR CONTINGENCY PLANNING ACTIVITIES

PHASE	ACTIVITY	DATE / TIMEFRAME
Prevention	Step-by-step plan	Complete
Preparedness	Contingency planning	1 <sup>st</sup> Version - Feb. Detailed Version - March Revised Version - TBA
	Contingency planning refinement	1999, July - Sept.
Response	Incident response planning	1999, July - Sept.
	Incident response	1999, Oct. - 2000 March

#### 4. OVERVIEW OF PREPAREDNESS

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##### 4.1 THE AECB'S EMERGENCY RESPONSE PLAN (ERP) AS IT PERTAINS TO THE YEAR 2000

The following section is taken from the AECB ERP.

The situations addressed by the Plan include emergencies, or potential emergencies, involving a nuclear-related activity in Canada or abroad, and where there is a regulatory or technical requirement for AECB involvement. Within the Plan, an emergency is defined as:

*an abnormal situation which, to limit damage to persons, property or the environment, requires prompt action beyond normal procedures.*

A nuclear emergency is defined as:

*an emergency involving a radiological or licensed activity.*

The Plan describes:

- a) the general types of situation which could require AECB involvement;
- b) the role of the AECB in nuclear emergencies;
- c) the AECB emergency organization;
- d) the concept of operations;
- e) the installation and equipment infrastructure at Headquarters; and
- f) preparedness and training requirements.

##### Events at Facilities Other Than Power-Reactors

Non-power reactor facilities include, for example, research laboratories, research reactors, fuel facilities, mines, mills, radioisotope processing facilities, commercial irradiation facilities and various users of radioactive materials for teaching, training and radiography. The types of events which could affect such facilities are outlined in IAEA Safety Series #91 (Emergency Planning and Preparedness for Accidents Involving Radioactive Materials Used in Medicine, Industry, Research and Teaching, 1989) and include the following:

- a) loss of containment of radioactive or non-radioactive hazardous materials;
- b) loss of shielding or source integrity of radioactive material;
- c) loss, abandonment or theft of radioactive material;
- d) fire; and
- e) natural or man-made external events, such as severe storms, floods, earthquakes, aircraft crash, releases of toxic, flammable or explosive material near the facility.

## ACTIVATION LEVELS

Activation levels define the degree of readiness of the AECB emergency organization. They may be, but are not necessarily, related to the emergency levels. The coordinator on-site liaison is responsible for changing the activation level for the AECB emergency organization.

Four activation levels are defined in the Plan:

- a. normal mode;
- b. standby mode;
- c. activated mode; and
- d. recovery mode

### NORMAL MODE

In normal mode, the AECB plans, trains and maintains its emergency preparedness.

### STANDBY MODE

The standby mode generally follows a report of a state of emergency from a competent authority (e.g., the utility for a power reactor emergency). In standby mode, some components of the AECB emergency organization are activated and kept informed on the progress of the emergency. The AECB response is normally limited to:

- a. ensuring the presence of an AECB representative at the emergency site;
- b. taking public information measures;
- c. notifying of key provincial, federal and international organizations; and
- d. monitoring the situation and updating the activation level as required.

The standby mode can be maintained until the state of emergency has been terminated by the competent authority, or until expanded activation of the AECB emergency organization is required.

### ACTIVATED MODE

The AECB emergency organization changes to activated mode when a coordinated response by several or all of its functional groups is required. In the activated mode, all appropriate and necessary members of functional groups report to planned emergency operations locations if it is safe to do so.

#### **RECOVERY MODE**

The recovery mode only follows the activated mode. It is a transition between emergency and normal operations.

#### **ACTIVATION LEVEL CRITERIA**

##### **STANDBY**

1. An event with limited consequences, or potential consequences which may require prompt action beyond normal AECB procedures.  
and
2. The cause of the emergency is understood to be under control.

##### **ACTIVATED**

1. An event with actual, potential or perceived on-site or off-site consequences which requires prompt action beyond normal AECB procedures.  
and
2. The cause of the hazard is not fully under control.

##### **RECOVERY**

1. No requirement for prompt action beyond normal AECB procedures.  
and
2. The source or sources of the potential off-site consequences have been removed or terminated.

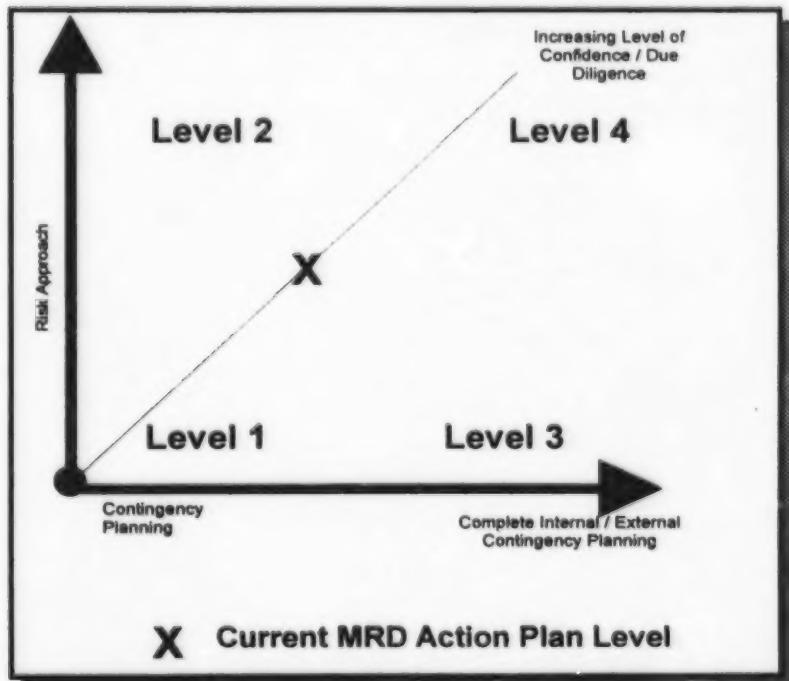
#### 4.2 THE AECB'S CURRENT PREPAREDNESS AS IT PERTAINS TO THE YEAR 2000

The AECB DFCMR's current preparedness is such that:

- Pre-identified responders do exist
- Routine and emergency procedures are in-place
- An Emergency Operations Centre (EOC) exists
- In the event of an emergency, the AECB has a well established emergency organization structure.
- Contingency plans exist in the form of three documents (Emergency Response Plan, Emergency Response Manual, Field procedures)

The goal of the MRD Year 2000 action plan is to use a combination of risk assessment (to identify and prioritize risks) and contingency planning (to prepare as a risk control measure) to ensure a thorough due diligent approach has been taken. In the approach, we can define 4 levels of action plan preparedness:

LEVEL 1	<i>The Initial Starting Point.</i> Risk has not been completed and contingency planning is not underway.
LEVEL 2	Risk assessment is underway, yet contingency planning is not being implemented.
LEVEL 3	The risk based approach for internal and external risks has been completed, yet it is not integrated in the contingency planning process.
LEVEL 4	<i>The Ideal Position.</i> Risk assessment has been applied internally and externally. The risk based approach is integrated in the contingency planning process to ensure all internal and external risks have been considered and mitigated as appropriate (via planning or other measures).



## KEY PERIODS OF EXPOSURE

The AECB is developing a detailed plan that will cover key periods of exposure from December 1999 to March 2000<sup>4</sup>. This plan is currently being refined and incorporates personnel on-site and on-call, increased staffing levels and testing of applications.

The AECB must support testing of the overall plan performed by the Business Units (BUs) and the Functional Units (FUs). Resource requirements for Day "0" do need to be refined with AECB personnel.

## SCENARIO CATEGORIZATION

In developing the scenario list, most of the potential Year 2000 related risks as initiating events, are already included within the emergency planning framework which is currently in place. Some deltas have been highlighted. Of the identified deltas, some are being worked on within the AECB as part of an upgrading of the emergency program, Board-wide.

A series of tables are presented to outline our contingency plan findings.

TABLE C:	CREDIBLE SCENARIO LIST
TABLE D:	SCENARIO CATEGORIES
TABLE E:	CATEGORY 1 SCENARIOS
TABLE F:	CATEGORY 2 SCENARIOS
TABLE G:	CATEGORY 3 SCENARIOS
TABLE H:	CATEGORY 4 SCENARIOS
TABLE I:	CATEGORY 5 SCENARIOS
TABLE J:	SCENARIOS COVERED IN DUTY OFFICER MANUAL
TABLE K:	DELTA <sup>s</sup>

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<sup>4</sup>i.e. December 31<sup>st</sup> to January 5<sup>th</sup>, January 28<sup>th</sup> to February 4<sup>th</sup> and February 28<sup>th</sup> to March 2<sup>nd</sup>

TABLE C - CREDIBLE SCENARIO LIST

ID #	SCENARIO LIST
1	Licensee equipment failure
2	Licensee personnel exposure
3	Medical applications failure
4	Medical patient exposure
5	Source release
6	Theft/loss of radioactive equipment/material
7	Vandalism
8	AECB media/public affairs relations are needed
9	Interruption of isotope production/supply
10	Telephone system breakdown
11	The AECB offices are non-accessible
12	Computer system failure
13	Electrical-grid failure
14	Unavailable laboratory services/equipment supply
15	DFCMR Year 2000 related licensee equipment failure
16	Computer system failure within the DFCMR
17	Overload of DFCMR licensee/public calls
18	DFCMR employees are unable to show-up at AECB offices (or other locations)
19	Field instrument failure

Within the series of scenarios obtained from the brainstorming sessions mentioned earlier in this report, some were found:

TABLE D - SCENARIO CATEGORIES	
CATEGORY	DESCRIPTION
1	to be covered by the AECB's current preparedness, whether in routine or emergency situations
2	to be insufficiently dealt with under AECB procedures
3	to fall under the Corporate realm of responsibility
4	to be candidates for DFCMR General Operating Guidelines
5	to necessitate closing-out.

Those scenarios belonging to the first category are:

TABLE E - CATEGORY 1 SCENARIOS			
ID#		YEAR 2000 RELEVANT YES / NO	COMMENTS
1	<b>Licensee equipment failure</b>	Yes	
2	<b>Licensee personnel exposure</b>	Yes	
3	<b>Medical applications failure</b>	Yes	
4	<b>Medical patient exposure</b>	Yes	
5	<b>Source release</b>	Yes	
6	<b>Theft/loss of radioactive equipment/material</b>	Yes	
7	<b>Vandalism</b>	Yes	
8	<b>AECB media/public affairs relations are needed</b>	Yes	
9	<b>Interruption of isotope production/supply</b>	Yes	With regards to the interruption of isotope production/supply scenario, the call information would be noted, but no further action would be taken (as described by a DFCMR Duty Officer).

Those scenarios belonging to the second category are:

TABLE F - CATEGORY 2 SCENARIOS

	YEAR 2000 RELEVANT YES / NO	COMMENTS
<b>Telephone system breakdown</b>	Yes	The AECB's emergency response manual indicates that WAN via remote access and satellite telephones are to be used as back-up systems. Unfortunately, these are not yet in place.
<b>The AECB offices are non-accessible</b>	Yes	An emergency operations relocation procedure is included in the AECB Emergency Response Manual but insufficient details are provided. The Business Resumption plan is referred to but is currently being updated. Appendix 5B of the Duty Officer Manual gives instructions on emergency access to Standard Life and AECB Laboratory. The extent in which these locations can be used in an emergency situation are unclear. Apparently, the emergency relocation site is the Tunney's Pasture Lab, and can only provide for a standby mode size team.
<b>Computer system failure</b>	Yes	Apparently, the Emergency Response Manual is being updated to include the fact that ILS back-up tapes are available. Section 5.5 of the Duty Officer Manual deals with emergencies at the AECB computer room, records office, legal file room or basement storage room, but does not deal with the fact that the computer system could be down as a result.

Those scenarios belonging to the third category are:

TABLE G - CATEGORY 3 SCENARIOS		
	YEAR 2000 RELEVANT YES / NO	COMMENTS
<b>Electrical-grid failure</b>	YES	The DFCMR is not in a position to provide the infrastructure for dealing with critical issues. The AECB preparedness group is not planning on trying to overcome this type of scenario. <sup>5</sup>
<b>Unavailable laboratory services/equipment supply</b>	YES	The DFCMR is not in a position to provide the infrastructure for dealing with critical issues. Section 5.1 in the Duty Officer Manual deals with emergencies at the AECB office/lab, but does not deal with the fact that it could compromise lab services and equipment supply.
<b>Vandalism</b>	YES	The DFCMR is not in a position to provide the infrastructure for dealing with critical issues. [for vandalism at DFCMR licensee sites, refer to category 1].

Those scenarios belonging to the fourth category are:

TABLE H - CATEGORY 4 SCENARIOS		
	YEAR 2000 RELEVANT YES / NO	COMMENTS
<b>DFCMR Year 2000 related licensee equipment failure</b>	YES	
<b>Computer system failure within the DFCMR</b>	YES	
<b>Overload of DFCMR licensee/public calls</b>	YES	
<b>DFCMR employees are unable to show-up at AECB offices (or other locations)</b>	YES	
General Operating Guidelines are being developed for these scenarios ( Refer to Annex IV ). Duty Officer procedures are being prepared for scenarios i) and iii) ( Refer to Annex V ).		

<sup>5</sup> An AECB team was assembled to "develop and implement a plan for the Year 2000 compliance of AECB systems (...). It is not within the scope of (their) project to address the possible failure of systems which are outside the control of the AECB such as, for example, public utilities and services." BMD-98-186

The scenario belonging to the fifth category is:

TABLE I - CATEGORY 5 SCENARIOS

	YEAR 2000 RELEVANT YES / NO	COMMENTS
Field instrument failure	YES	This is something that should be dealt with by taking precautionary measures. (e.g., ensuring a Year 2000 compatible supply source etc.)

TABLE J  
EXISTING AECB PROCEDURES THAT DEAL WITH CATEGORY 1 SCENARIOS

	YEAR 2000 RELEVANT YES / NO	COMMENTS (REFER TO TABLE E)
► Spill/Leak/Release of Radioactivity (Section 1.2)	YES	1, 2, 3, 4, 5
► Radioactive Source in Unshielded Position (Section 1.3)	YES	1, 3, 5
► Damaged Device Containing Radioactive Material (Section 1.4)	YES	1, 3, 7
► Lost or Stolen Radioactive Material (Section 1.5)	YES	6
► Abandoned Radioactive Material (Section 1.6)	YES	6
► Radioactive Source Stuck in a Drill Hole (Section 1.8)	YES	2, 5
► Accelerator Incident (Section 1.9)	YES	1, 2, 5
► Incident at a Waste Management Facility (Section 4.1)	YES	1, 2
► Stolen Radioactive Material (Section 1.11)	YES	6
► Security Incidents (Section 5)	YES	7
► Intake of Radionuclides by Members of the Public (Section 1.12)	YES	4
► Public/Media Requests (Section 6)	YES	8

Note: These are found in the Duty Officer Manual (at routine level) and all Emergency Team Member Manuals (at standby/activation mode)

TABLE K - DELTAS

DELTA	COMMENT
Cascading warning system for site licensees with similar Year 2000 susceptible devices	
Redundant communication systems for routine and emergency incidents (i.e. radio)	
Simultaneous event preparation (inter-departmental and within DFCMR)	
Number of responders prepared to respond to licensee inquiries in and around Day "0"	
Duty Officer staffing for Day "0"	
Business Resumption Plan update	
Emergency Response Manual undergoing update to reflect ILS back-up tape availability	
Prioritize expected (anticipated) emergency incident types - given that the exposure to the Year 2000 initiating event is Board-wide .	
Internal Year 2000 Compliance needs to be verified (eg. pagers, security system, computers....)	
Site licensee awareness needs to be heightened to ensure integration with the AECB Action Planning process	
Staffing should be available in the time frame approaching Day "0" - (should be planned and reflected in procedures)	
Contingency Plan licensee verification should begin immediately. This can include onsite verification and development of a draft example for guidance.	
Back-up generator availability to meet demand of power for staffing during a power outage (there is a generator - not clear as to its ability to meet complete power demands of multiple departments including all Mission Critical systems for the DFCMR).	
Offsite terminology (licensee to AECB) and inter-departmental (e.g. AECB - National Planning Group) terminology should also be verified to be similar.	

## **5. FURTHER NECESSARY ACTIONS**

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### **5.1 YEAR 2000 SCENARIO TRIAGE**

The triage of scenarios should be addressed once again, this time by DFCMR decision makers, to ensure that none of them are being overlooked.

### **5.2 DFCMR GENERAL OPERATING GUIDELINES**

The developed products - general operating guidelines and associated duty officer procedures - will apply solely during routine operations.

#### **GENERAL OPERATING GUIDELINES / CONTINGENCY PLANNING OBJECTIVE**

The objectives of the DFCMR GOGs are to provide a mechanism to effectively respond to incidents that are directly related to Year 2000 hazards and to provide a set of priorities to assist in Command and Control decision making.

Specific objectives include:

1. Incident triggers
2. Notification procedures
3. Integration with existing Emergency Plans
4. Provision for incidents which may affect business operations, life safety, property and the environment
5. Contingencies which address business risks, individual risks, environmental risks, political risks, and societal risks
6. Identification of key individuals

If the DFCMR general operating guidelines are deemed viable, continued efforts should be made at developing them in as detailed a manner as necessary. This will necessitate the participation of DFCMR decision makers. The GOGs are guidelines only. As such, no legal binding obligation exists as it might with standard operating procedures, to follow the procedure exactly. ( Refer to Annex IV ).

### **5.3 DUTY OFFICER PROCEDURES**

For the DFCMR general operating guideline scenarios involving the participation of AECB duty officers, procedures were developed to be included in the AECB Duty Officer Manual.

These procedures will have to be verified by AECB preparedness personnel and updated as the general operating guidelines become operational. ( Refer to Annex V ).

#### **5.4 IMPACTS TO THE SITE LICENSEE CONTINGENCY PLANNING PHASE**

The next phase is where the greatest risk reduction efforts can be directed. This will entail a closer examination of site licensees. This phase is principally addressed in the MRD Y2K Risk Assessment & Compliance Evaluation Services Audit Report.

Associated contingency planning verification suggestions are presented below:

- Circulate an example contingency planning document to site licensees so that the flow of their response process is in line with the DFCMR.
- Provide an awareness level contingency planning course to the site licensees.
- Verification of contingency plans should take place on three levels:
  1. Content Verification; 2. Drills; 3. Scenario Exercises.<sup>6</sup>
- Onsite contingency plan evaluation can begin with the 55 high risk sites (based on the assembled MRD Y2K Risk Assessment & Compliance Evaluation Services Report).
- Exercise verification may be required for particular licensee sites (evaluators will be necessary).
- The Notification / Communication subset is the critical element which must be verified. Our experience has shown that this is the typical component to cause incident response failure.

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<sup>6</sup> Drill - Focuses on a specific activity or set of activities which are response measures. This type of training is meant to reinforce competency. Tabletop Exercises - A Scenario Exercise conducted within a board room or sit down type session. The focus on this type of exercise is to precipitate discussion and understanding of the Crisis Response mechanisms. Scenario Exercise - A full activity requiring the integration of planning, logistics, resources and personnel directed towards the simulated crisis event.

**6. ANNEXES**

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- ANNEX I - YEAR 2000 SCENARIOS**
- ANNEX II - DFCMR PARTICIPANTS**
- ANNEX III - PREPAREDNESS DOCUMENTATION**
- ANNEX IV - DFCMR GENERAL OPERATING GUIDELINES**
- ANNEX V - AECB DUTY OFFICER PROCEDURES**

**Brainstorming Session Scenarios**  
generated Jan. 27 1999 and Feb. 10 1999

*Jan. 27 1999 brainstorming team:* Jongile Majola (AECB-MRD), Jacqueline Busca (AECB-WID), André Marleau (AECB-MRD), Paul Butler (MJW), Kevin Reed (MJW), François Lemay (ISR), Corinne Françoise (MJW)

*Feb. 10 1999 brainstorming team:* Jongile Majola (AECB-MRD), Kevin Reed (MJW), François Lemay (ISR), Bob Irwin (Head of MAIL, AECB-MRD), 6 LAOs (MAIL, AECB-MRD): Jean-Claude Poirier, Ramzi Jammal, Richard Cawthorn, Angel Licea, Cecilia MacLean, Peter St. Micheal

The assumptions surrounding the scenarios are as follows:

- electrical disturbances will be confined to a grid
- telecommunication outages are local only
- the existing AECB Emergency Plan forms the backbone of the DFCMR General Operating Guidelines

**Scenarios**

- ▶ telephone system breakdown
- ▶ electrical-grid failure
- ▶ computer system failure
- ▶ unavailable laboratory services/equipment supply
- ▶ AECB offices are non-accessible
- ▶ licensee equipment failure
- ▶ licensee personnel exposure
- ▶ medical applications failure
- ▶ medical patient exposure
- ▶ source release
- ▶ theft/loss of radioactive equipment/material
- ▶ vandalism
- ▶ need for AECB media/public affairs relations
- ▶ interruption of isotope production/supply
- ▶ DFCMR Year 2000 related licensee equipment failure
- ▶ computer system failure within the DFCMR
- ▶ overload of DFCMR licensee/public calls
- ▶ DFCMR employees are unable to show-up at AECB offices (or other locations)

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**ANNEX II****DFCMR PARTICIPANTS**

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**PARTICIPANTS RECEIVING A REQUEST FOR WRITTEN INPUT:**

Name	Division	Written Response	Interview	Was Contacted by Message
Alwani, Abdul	RPFD	no	no	no
Beetham, Danielle	MRD	no	no	yes
Busca, Jacqueline	RPFD	no	no	yes
Dicaire, Lyne	IMD	no	no	yes
Eyre, Phillip	MRD	no	yes	no
Irwin, Bob	MRD	responded with Jammal, R.	no	no
Jasferi, Jafir	UFD	yes	no	no
James, Mike	RPFD	yes	yes	no
Jammal, Ramzi	MRD	yes	yes	no
Janica, Rafaël	RPFD	responded with Kavanagh, J.	yes	no
Kavanagh, Jackie	RPFD	yes	yes	no
Marleau, André	MRD	no	no	no
McNab, Doug	MRD	no	no	yes
Nelson, Peter	MRD	no	no	no
Power, John	RPFD	no	no	no
Régimbald, André	WID	no	no	yes
Sykes, Dwain	RPFD	yes	yes	no
White, Mike	UFD	no	no	yes

Cc:

Aly, Aly	RPFD	non-applicable
Ferch, Richard	WID	non-applicable
McCabe, Rick	UFD	non-applicable
Thomas, Ron	MRD	non-applicable
Viglasky, Tom	UFD	non-applicable

**ADDITIONAL SOURCES:**

Beaudin, Bernie	ERDD
Chamberlain, Robert	MRD
Drouin, Rachelle	ERDD
Lyscom, Lyse	HRD
Maloney, Cait	ERDD
Majola, Jongile	MRD
Osborne, Gillian	Consultant

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**ANNEX III - PREPAREDNESS DOCUMENTATION**

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**THE FOLLOWING DOCUMENTATION WAS EXAMINED:**

- ◆ The AECB Emergency Response Plan
- ◆ The AECB Emergency Response Manual (vol.1)
- ◆ The AECB Emergency Response Manual (vol.2)
- ◆ The AECB Duty Officer Manual
- ◆ The Province of Ontario Nuclear Emergency Plan (Part I - Provincial Master Plan)
- ◆ *The AECB Business Resumption Plan (currently being updated)*
- ◆ The MRD Y2K Risk Assessment and Compliance Evaluation Services Report
- ◆ MRD Licence Processing Procedures

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**ANNEX IV - DFCMR GENERAL OPERATING GUIDELINES**

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- GOG 1.0      DFCMR YEAR 2000 RELATED LICENSEE EQUIPMENT FAILURE**
- GOG 2.0      COMPUTER SYSTEM FAILURE WITHIN THE DFCMR**
- GOG 3.0      OVERLOAD OF DFCMR LICENSEE/PUBLIC CALLS**
- GOG 4.0      DFCMR EMPLOYEES ARE UNABLE TO SHOW-UP AT AECB OFFICES (OR OTHER LOCATIONS)**

**SCENARIO**

DFCMR Year 2000 related licensee equipment failure

**DESCRIPTION**

TYPE:	external
RISK TYPE:	business/political
TRIGGER(S):	a DFCMR licensee alerts the AECB of Year 2000 related equipment failure
AFFECTED DIVISION(S):	MRD, ... ( <i>to be determined</i> )
PERSON(S) RESPONSIBLE:	<i>to be determined</i>
INCIDENT:	the DFCMR is unable to communicate the Year 2000 related problem to licensees with similar/same equipment
CONSEQUENCE(S):	other licensees with similar/same equipment are not contacted in a reasonable amount of time, (or not at all) allowing the failure of the equipment to occur without the licensee receiving adequate warning  possible political, legal and monetary repercussions
VULNERABILITY PERIOD:	upon receipt of the call until all relevant licensees are contacted and informed

**ACTIVATION**

⇒ Upon receipt of the Duty Officer's call (or other), this General Operating Guideline shall serve as a guide to pre-determined Responders of DFCMR divisions.

MRD: *To be determined*

Other Divisions: *To be determined*

**NOTIFICATION**

⇒ The Responder(s) must contact and inform all potentially affected licensees.

⇒ The licensee telephone #'s listed by equipment type can be accessed in the following manner:

MRD: *To be determined*

Other Divisions: *To be determined*

⇒ Every DFCMR division should include a prioritised list of licensees in this General Operating Guideline, based on likelihood of exposure (or other), to assist the Responder in making the right call sequence.

NOTIFICATION (cont'd)

---

⇒ Hardcopies are made available and kept up-to-date, at the locations listed below (in the event of computer access/failure problems).

MRD: *To be determined*

Other Divisions: *To be determined*

⇒ The Duty Officer Manual has notification procedures in the event that a DFCMR Responder cannot be reached.

ALTERNATE LOCATIONS SET-UP

---

*To be determined*

TELECOMMUNICATIONS

---

⇒ Determine most applicable communication system (e.g. Internet, radio, phone ...)

⇒ Routine communications are made by:

- Telephone
- Fax
- Cellular phone.

⇒ In the event of a telephone system breakdown the AECB Emergency Response Manual mentions back-up systems such as the WAN via remote access and satellite telephones. Unfortunately they are not yet in place.

INFORMATION MANAGEMENT

---

⇒ Responders should keep a "detail specific" log of the response.

Log sheets are in Appendix \_\_\_\_ (*to be determined*)

⇒ The Duty Officer Manual addresses record-keeping procedures for the Duty Officer in Appendix I.

EVALUATION

---

⇒ Refer to the DFCMR division lists of prioritised licensees to help make the right call sequence.

⇒ In the event that too many critical licensees need to be contacted quickly, advise the appropriate DFCMR division head.

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**PUBLIC INFORMATION**

---

The Duty Officer has instructions concerning this matter.

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**LOGISTICS**

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- ⇒ If the list of licensees to be contacted is too long to be handled in a reasonable amount of time, back-up/alternate Responders can be contacted to assist the initial Responder. How to proceed in doing so will have to be determined.
- ⇒ The Duty Officer Manual has been updated to deal with this scenario.

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**FEDERAL NUCLEAR EMERGENCY PLAN IMPLEMENTATION**

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Non-applicable under routine operations

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**DEACTIVATION**

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- ⇒ Once the designated Responder(s) has/have contacted and informed the DFCMR licensees having the same/similar problem prone equipment, the response process may cease.

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**OPERATIONS RELOCATION**

---

*To be determined*

---

**NOTIFICATION OF NEXT OF KIN**

---

Non-applicable under routine operations

---

**ENVIRONMENTAL MONITORING**

---

*To be determined*

COMPUTER SYSTEM FAILURE WITHIN THE DFCMR

<b>SCENARIO:</b> Computer System Failure within the DFCMR	
<b>DESCRIPTION</b>	
TYPE:	internal
RISK TYPE:	business
TRIGGER(S):	data provision and other computer related services are unavailable to employees and/or entire sections of the DFCMR
AFFECTED DIVISION(S):	UFD, WID, MRD, RFPD
PERSON(S) RESPONSIBLE:	<i>to be determined</i>
INCIDENT:	individuals or sections of the DFCMR are unable to provide assistance/carry out normal duties, using the computer system
CONSEQUENCE(S):	the DFCMR could be reprimanded for not being suitably prepared possible legal and monetary repercussions
VULNERABILITY PERIOD:	period of time during which the computer system is down or malfunctioning

ACTIVATION

⇒ Any DFCMR employee experiencing a computer system failure, which prevents him/her from carrying on regular duties, can make use of this General Operating Guideline.

NOTIFICATION

- ⇒ The computer services (help desk or other) should be contacted if the problem seems to only be affecting a single or small group of computers.
- ⇒ In the event that all computer systems are down → contacting the computer services would result in overloading their phone lines and slow down the resolution process. Those who will be dealing with the situation have most likely observed the problem.

ALTERNATE LOCATIONS SET-UP

*To be determined*

**COMPUTER SYSTEM FAILURE WITHIN THE DFCMR****TELECOMMUNICATIONS**

⇒ Routine communications are made by:

- Telephone
- Fax
- Cellular phone.

⇒ In the event of a telephone system breakdown the AECB Emergency Response Manual mentions back-up systems such as the WAN via remote access and satellite telephones. Unfortunately they are not yet in place.

⇒ Prioritise communication systems

**INFORMATION MANAGEMENT**

⇒ ILS back-up tapes are available (no more than 2 days old).

*To be determined*

⇒ Hardcopies of documents exist and are made on a \_\_\_\_\_ (to be determined) basis.

*To be determined*

⇒ Other information sources can be contacted (e.g. Health Canada).

*To be determined*

⇒ Particular divisions have drawn-up lists that include the location of ILS back-up tapes and hardcopies, as well as provide alternate information sources.

*To be determined*

**EVALUATION**

Non-applicable in this case

**PUBLIC INFORMATION**

The Duty Officer has instructions concerning this matter.

**LOGISTICS**

⇒ As much as possible, regular operations should continue using either:

- (a) spare functional computer(s) or
- (b) everyday supplies (e.g. paper, pen, functional calculator)

**FEDERAL NUCLEAR EMERGENCY PLAN IMPLEMENTATION**

---

Non-applicable under routine operations

**DEACTIVATION**

---

⇒ Once computer systems are up and running properly, this General Operating Guideline no longer needs to be followed.

**OPERATIONS RELOCATION**

---

*To be determined*

**NOTIFICATION OF NEXT OF KIN**

---

Non-applicable under routine operations

**ENVIRONMENTAL MONITORING**

---

Non-applicable in this case

**SCENARIO:** Overload of DFCMR licensee/public calls**DESCRIPTION**

TYPE:	external
RISK TYPE:	business/political/societal
TRIGGER(S):	<p>all of the DFCMR Responders and alternate Responders are occupied and more and more calls are being received by the Duty Officer via the message centre</p> <p>the Duty Officer has a backlog of callers to contact (from those seeking DFCMR assistance)</p>
AFFECTED DIVISION(S):	MRD, WID, UFD, RFPD (to be determined)
PERSON(S) RESPONSIBLE:	<i>to be determined</i>
INCIDENT:	important calls may not be dealt with in a timely manner (or not at all) which will jeopardise the DFCMR's ability to act/offer assistance where it is the most needed
CONSEQUENCE(S):	<p>DFCMR or certain of its divisions may be reprimanded for not having properly assumed its role</p> <p>possible political, legal and monetary repercussions</p>
VULNERABILITY PERIOD:	period of time during which a bottleneck of calls occurs

**ACTIVATION**

⇒ Upon receipt of the Duty Officer's call signalling an overload of callers needing assistance, this General Operating Guideline shall serve as a guide to the pre-determined DFCMR Responder.

*To be determined*

**NOTIFICATION**

\* Depending on whether or not the AECB adopts a multiple-line telephone system for the message centre, the following may not apply. (this system would allow more than one call to come through at a time and produce a list of communications to be transferred to the Duty Officer who could triage the calls and send the relevant ones to the Responder who could more easily assess which calls to handle and in what order)

OVERLOAD OF DFCMR LICENSEE/PUBLIC CALLSNOTIFICATION (cont'd)

---

- ⇒ The Duty Officer will direct all DFCMR type calls received by the message centre to the GOG 3.0 Responder.
- ⇒ The GOG 3.0 Responder will need to contact the pre-determined DFCMR Back-up Internal Duty Officers.

Their role consists in contacting the DFCMR Responders and alternate Responders to allow the AECB Duty Officer and DFCMR GOG 3.0 Responder to continue receiving telephone communications without having to contact the appropriate scenario Responders themselves.

*To be determined*

- ⇒ The DFCMR should include a prioritised list of scenarios and licensees in this General Operating Guideline, based on likelihood of exposure (or other), to assist the GOG 3.0 Responder in performing a quick triage of the excessive number of calls being received by the DFCMR.
- ⇒ The GOG 3.0 Responder will triage the DFCMR type calls received by the Duty Officer, and instruct the DFCMR Back-up Internal Duty Officer(s) to handle (see below) those calls that were deemed most pressing. (This way the GOG 3.0 Responder can continue to receive calls from the Duty Officer).
- ⇒ The DFCMR Back-up Internal Duty Officer(s) will need to ensure that the calls transferred to him/them are dealt with as soon as possible by the appropriate Responders.
- ⇒ The Duty Officer Manual has notification procedures in the event that a DFCMR Responder cannot be reached (but not in the event that all of them are occupied).

ALTERNATE LOCATIONS SET-UP

---

*To be determined*TELECOMMUNICATIONS

---

- ⇒ Routine communications are made by:
  - Telephone
  - Fax
  - Cellular phone.
- ⇒ In the event of a telephone system breakdown the AECB Emergency Response Manual mentions back-up systems such as the WAN via remote access and satellite telephones. Unfortunately they are not yet in place.

INFORMATION MANAGEMENT

---

⇒ The GOG 3.0 Responder should keep a log of the response.

Log sheets are in Appendix \_\_\_\_ (*to be determined*)

⇒ The Duty Officer Manual addresses record-keeping procedures for the Duty Officer in Appendix I.

EVALUATION

---

⇒ Refer to the DFCMR list of prioritised licensees/scenarios to facilitate the triage process.

⇒ In the event that the situation appears to be out of control advise the appropriate DFCMR division head.

*To be determined*

PUBLIC INFORMATION

---

The Duty Officer has instructions concerning this matter.

LOGISTICS

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⇒ The issue of resource allocation (personnel) needs to be examined.

⇒ The Duty Officer Manual has been updated to deal with this scenario.

FEDERAL NUCLEAR EMERGENCY PLAN IMPLEMENTATION

---

Non-applicable under routine operations

DEACTIVATION

---

⇒ Once the bottleneck situation no longer exists, the response process may cease.

OPERATIONS RELOCATION

---

*To be determined*

31 March 1999

General Operating Guideline 3.0

OVERLOAD OF DFCMR LICENSEE/PUBLIC CALLS

NOTIFICATION OF NEXT OF KIN

---

Non-applicable under routine operations

ENVIRONMENTAL MONITORING

---

Non-applicable in this case

**SCENARIO:** DFCMR employees are unable to show-up at AECB offices (or other locations)**DESCRIPTION**

TYPE:	external
RISK TYPE:	business/political/societal
TRIGGER(S):	transportation complications (e.g. Year 2000 related) chaos/fear which could cause personnel to want to remain with their families (e.g. Year 2000 related)
AFFECTED DIVISION(S):	MRD, WID, UFD, RFPD
PERSON(S) RESPONSIBLE:	<i>to be determined</i>
INCIDENT:	a shortage of personnel at DFCMR occurs key personnel is not available at DFCMR office location (or other)
CONSEQUENCE(S):	DFCMR is not able to operate at full capacity and could be reprimanded for not having anticipated large scale external complications (such as Year 2000 rollover date) possible legal, political and monetary repercussions
VULNERABILITY PERIOD:	period of time during which employees are absent or inaccessible

**NOTE:** if the licensees have problems due to chaos, most likely, so will the AECB.

**ACTIVATION**

⇒ When the DFCMR cannot operate normally due to missing employees, this General Operating Guideline will become applicable.

*Whether or not a particular Responder will be assigned to the tasks described in this General Operating Guideline or not will have to be determined.*

**NOTIFICATION**

⇒ Employees should be contacted at home or elsewhere by (using the appropriate method):

- telephone
- cellular phone
- pager
- e-mail
- other

**NOTIFICATION (cont'd)**

⇒ If employees cannot come to work due to major transportation problems or chaos/fear, they should be encouraged to work wherever they are able to.

⇒ Depending on what type of transportation is available to get DFCMR personnel where they are needed, decisions will need to be made with respect to feasibility (monetary, scheduling etc. considerations).

**ALTERNATE LOCATIONS SET-UP**

*To be determined*

**TELECOMMUNICATIONS**

⇒ Routine communications are made by:

- Telephone
- Fax
- Cellular phone.

⇒ In the event of a telephone system breakdown the AECB Emergency Response Manual mentions back-up systems such as the WAN via remote access and satellite telephones. Unfortunately they are not yet in place.

**INFORMATION MANAGEMENT**

⇒ Employees should be encouraged to log communications with the DFCMR and other work-related locations (whenever possible).

**EVALUATION**

*To be determined*

**PUBLIC INFORMATION**

The Duty Officer has instructions concerning this matter.

**LOGISTICS**

⇒ Keep alternate transport means available to key AECB staff at the Head Office + Regional + Site Offices.

31 March 1999

General Operating Guideline 4.0

**DFCMR EMPLOYEES ARE UNABLE TO SHOW-UP AT AECB OFFICES (OR OTHER LOCATIONS)**

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**LOGISTICS (cont'd)**

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- ⇒ Consider renting vehicles for trips less than 4-5 hours.
- ⇒ Consider having the AECB or rented vehicles available at sites (more than usual amount).
- ⇒ Where possible, employees working at home should use some form of communication (e.g. telephone, e-mail, etc.)

**FEDERAL NUCLEAR EMERGENCY PLAN IMPLEMENTATION**

---

Non-applicable under routine operations

**DEACTIVATION**

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- ⇒ Once DFCMR operations are running smoothly again, this General Operating Guideline no longer needs to be followed.

**OPERATIONS RELOCATION**

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*To be determined*

**NOTIFICATION OF NEXT OF KIN**

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Non-applicable under routine operations

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**ENVIRONMENTAL MONITORING**

---

Non-applicable in this case

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**ANNEX V - AECB DUTY OFFICER PROCEDURES**

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**TO BE ADDED TO SECTION 1 OF THE AECB DUTY OFFICER MANUAL**

- ◆ DFCMR YEAR 2000 RELATED LICENSEE EQUIPMENT FAILURE
- ◆ OVERLOAD OF DFCMR LICENSEE/PUBLIC CALLS

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**DFCMR YEAR 2000 RELATED LICENSEE EQUIPMENT FAILURE 1.13**

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## **1.13 DFCMR YEAR 2000 RELATED LICENSEE EQUIPMENT FAILURE**

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**Obtain Contact Information:**

- name, phone number, organization, location of caller
- name, phone number, organization, location of primary contact
- name, number of licensees
- names, phone numbers of any authorities notified or involved

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**Obtain Incident Information:**

- General Information
  - type of equipment (in detail)
  - date, time of incident
  - what happened (in detail)
  - reason for suspecting the cause of the incident to be Year 2000 related
- Emergency Response Information
  - are there any emergency procedures available?
  - actions taken
  - actions planned

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**Initial Action:**

- Advise the caller to follow any advice given in their emergency procedures.
- Advise caller that all updates are to go to the Duty Officer line unless told otherwise.

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**Contact AECB Responder:**

Expertise	Name	Home	Office	Other
Radiography	TBD			
Research, Medical	TBD			
Oil Well	TBD			
Gauges, Industrial	TBD			
Alternate in all cases	TBD			

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**FOR ALTERNATES SEE APPENDIX 1-A.**

- Advise responder of situation and that all future updates will be arriving through the Duty Officer line unless otherwise directed by responder.
- Ask responder who should make additional notifications and if any should be omitted or delayed until the next working day.
- Perform any actions as requested by responder.

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## DFCMR YEAR 2000 RELATED LICENSEE EQUIPMENT FAILURE 1.13

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**If You Cannot Reach AECB Responder:**

- 1 Assess the situation and how urgently action is needed (see Appendix I).
- 2 Notify contacts below (as appropriate to situation).
- 3 Try to reach an AECB responder again; if no response, try the Director (Appendix D.1)
- 4 Phone primary contact to get an update on the progress made at remedying the situation.
- 5 If you estimate the situation to be very serious and cannot reach the Director:
  - Contact a member of the Executive Committee, preferably DG DFCMR (see Appendix D.1).
  - Advise the member of the situation and of any actions you took.
  - Perform any actions as requested.

**Loop through this procedure until you are satisfied the situation is under control.**

**Notifications if You Cannot Reach an AECB Responder:** To be determined.

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**Roles & Responsibilities:**

- The role of the AECB in this type of situation is to alert the same/similar equipment licensee holders.
- It is the responsibility of the licensee to organize a proper clean-up and recovery of the damaged device (this is done by a qualified consultant if the licensee does not have the proper resources).

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**Notes:**

- This section includes the failure of any sort of device containing radioactive material, or compromising the proper use a device containing radioactive material.

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To be determined

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**OVERLOAD OF DFCMR LICENSEE/PUBLIC CALLS 1.14**

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## **1.14 OVERLOAD OF DFCMR LICENSEE/PUBLIC CALLS**

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**Initial Action:**

- once all of the DFCMR responders are occupied and calls continue to be received, this procedure should be followed
- separate all of the incoming calls to be directed to DFCMR from the others

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<b>Contact AECB Responder:</b>	<b>Name</b>	<u>Home</u>	<u>Office</u>	<u>Other</u>
DFCMR	TBD			
Alternate in all cases	TBD			

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**FOR ALTERNATES SEE APPENDIX I-A.**

- Transfer all of the DFCMR calls to the responder who will basically assume the role of an internal Duty Officer.
- Continue to direct the appropriate calls to the responder until the bottleneck situation has ceased.
- Perform any actions as requested by responder.

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**If You Cannot Reach AECB Responder:**

- 1 Assess the situation and how urgently action is needed (see Appendix I).
- 2 Notify contacts below (as appropriate to situation).
- 3 Try to reach the DFCMR responder again; if no response, try the Director (Appendix D.1)
- 4 If you estimate the situation to be very serious and cannot reach the Director:
  - Contact a member of the Executive Committee, preferably DG DFCMR (see Appendix D.1).
  - Advise the member of the situation and of any actions you took.
  - Perform any actions as requested.

**Loop through this procedure until you are satisfied the situation is under control.**

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**Notifications if You Cannot Reach an AECB Responder:** To be determined.

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**Roles & Responsibilities:**

- The role of the AECB in this type of situation is to be ready to handle a large number of calls.

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**Notes:**

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To be determined

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